

Supplementary Material

Supplementary Table 1.
DNA duplexes used in melting experiments

χ , %	Sequence of one of the two complementary strands
0	^{5'} TATTAATTATAATAATTAAATTAAATTAAATAATATAATAATTATATAATTATAATTATAAAA
14	^{5'} ACATAATATATTGAAATATTATATCAATAGATGTTCATAAAATTATTACAAACTAAGTATTA
32	^{5'} CAGTGATTATGAAAGGTTATGGAATATAGCTATGACTTGTAACTACGTTGAAGGTAGAAC
41.5	^{5'} TAAGTTAATTAGCTGACATGATGATATTCCAGACAGTACCTCTGCTATCGGGTCCCTTTGTGA

Supplementary Table 2.

Temperature dependence of ΔG_{KL}^{ST} , kcal/mol, for A•T- and G•C-containing contacts^a

T, °C	AT ^b	AA/TT ^c	TA ^b	GC ^b	GG/CC ^c	CG ^b
12	-1.86	-1.80	-0.90	—	—	—
22	-1.70	-1.44	-0.50	—	—	—
32	-1.45	-1.17	-0.24	-2.29	-1.36	-0.92
37	-1.31	-1.08	-0.19	-2.06	-1.41	-0.89
42	-1.14	-0.93	-0.03	-2.02	-1.17	-0.68
47	-0.94	-0.72	0.13	-1.93	-1.09	-0.63
52	-0.72	-0.49	0.26	-1.88	-0.90	-0.42

^a Stacking parameters were measured in 1xTBE which is equivalent to $[Na^+] = 15\text{ mM}$ ^b DNA stacking parameter for this contact is calculated as an average of ΔG_{KL}^{ST} values measured for KL/F and KL/R nicks^c DNA stacking parameter for this contact is calculated as an average of ΔG_{KL}^{ST} values of KL/F and KL/R nicks for two fragments with stacks equivalent due to dyad axis of symmetry, i.e. AA/F, AA/R, TT/F, TT/R and GG/F, GG/R, CC/F, CC/R

Supplementary Table 3

Salt dependence of ΔG_{KL}^{ST} , kcal/mol, for A•T- and G•C-containing contacts^a

[Na ⁺], mM	AT ^b	AA/ TT ^c	TA ^b	GC ^b	GG/ CC ^c	CG ^b
15	-1.31	-1.08	-0.19	-2.06	-1.41	-0.89
27	-1.48	-1.24	-0.30	-2.18	-1.51	-1.02
35	-1.52	-1.27	-0.33	-2.4	-1.45	-0.91
55	--	--	--	-2.5	-1.59	-1.08
68	-1.67	-1.38	-0.40	--	--	--
75	--	--	--	-2.56	-1.56	-1.19
100	-1.70	-1.52	-0.53	-2.60	-1.72	-1.29

^a Stacking parameters were measured at 37 °C^b DNA stacking parameter for this contact is calculated as an average of ΔG_{KL}^{ST} values measured for KL/F and KL/R nicks^c DNA stacking parameter for this contact is calculated as an average of ΔG_{KL}^{ST} values of KL/F and KL/R nicks for two fragments with stacks equivalent due to dyad axis of symmetry, i.e. AA/F, AA/R, TT/F, TT/R and GG/F, GG/R, CC/F, CC/R